

CASE STUDY

Harford County Public Schools
Bel Air, MD

TOPIC:

Being Energy Efficient Leads to Good Indoor Air Quality Practices



Harford County Public Schools (HCPS) has approximately 40,500 students and 4,600 staff members in its 50 public schools. HCPS has the seventh largest in enrollment in Maryland, which has 24 school systems – one in each county and Baltimore City. Built from 1931 to 2001, the 50 schools include 160 buildings at 32 elementary schools, 8 middle schools, 8 high schools, 1 special school (The John Archer School), and 1 technical school.

Before becoming involved in the U.S. Environmental Protection Agency's (EPA) *Indoor Air Quality Tools for Schools (IAQ TFS)* Program in the Spring of 2001, HCPS had a history of IAQ issues. Moisture and ventilation problems at Edgewood and North Harford Middle Schools caused significant mold damage, which cost the school district \$275,000 in unbudgeted funds. After remediation was complete, the board of directors and district level authorities decided a proactive approach was necessary to resolve future IAQ issues. Today, 40 of the 50 HCPS schools are part of the Johnson Controls Metasys Energy Management System that allows the district to monitor the mechanical systems, air handling units, ventilation, and heating and cooling systems in each school. This also allows the district to adjust the temperatures in troubled areas.

HCPS also became involved in the *IAQ TFS* Program after attending an IAQ workshop in Anne Arundel County sponsored by the American Lung Association (ALA) of Maryland. The result of the workshop was the creation of a strong business partnership between HCPS and the ALA of Maryland.

HCPS's IAQ Management Program is a centrally based program with individually administered IAQ Teams at 50 schools. The *Indoor Air Quality Tools for Schools* Kit, given to each school's IAQ Team via an American Lung Association (ALA) of Maryland grant, provides the

structure and guidance for each IAQ Team to implement the *IAQ TFS* Program successfully. The school system's central office provides training utilizing the recommendations outlined in the *IAQ TFS* Kit. Each school tailored their respective programs to fit the needs of their facility. An IAQ Team was formed at the district level to assist the school IAQ Teams in their efforts. The four individuals on this team include Custodial Training Coordinator Jim Bertier, Compliance Coordinator Laura Myers Paligo, and two technicians (techs) on the Preventative Maintenance (PM) Team. Ten techs on the PM team are assigned to five zones throughout the county with two PM techs assigned to each zone. The two techs assigned to a specific area accompany Mr. Bertier and Ms. Paligo on inspections and investigations of any problems. During these inspections, an "Investigation of an IAQ Problem" form is completed to summarize their findings. This team also assists the school IAQ teams in conducting their walkthroughs.

Each school's IAQ team can function independently and generally consists of the assistant principal, the chief custodian, the day custodian, a teacher, and two parents. Each school team meets at least four times a year. The teams conduct two walkthroughs per year and perform annual trainings and staff education in-services. The majority of schools also educate their respective staff members by distributing the *IAQ TFS* backgrounder along with the checklists. The two parents on the IAQ Team serve as the liaisons to the community in regards to communicating indoor air quality events through newsletters and cable access programming. In conjunction with the school IAQ Team, a few parents raised some concerns regarding IAQ issues at North Harford Middle School. In an attempt to identify and resolve any issues, the District hired an independent, certified industrial hygienist to perform a comprehensive study of the building. Several areas of concern were identified, including heating, ventilating and air

conditioning (HVAC) controls, cleaning of coils and grilles, sealing of ductwork, calibration of re-heat valves and thermostats plus unit repairs.

As a result of implementing an IAQ Management Plan through the *IAQ TFS* Program, teachers have been able to spend more time educating students in a comfortable healthy environment without the distractions of IAQ issues. Additionally, since the implementation of the *IAQ TFS* Program, the number of IAQ issues reported to the district's Facilities Management office has been reduced by 75 percent. The most gratifying outcome from this experience is the difference HCPS sees in its buildings.

They are cleaner, healthier places in which to work and learn. Though HCPS realizes that IAQ issues still exist, they now have a program with which to identify and remediate any remaining issues quickly.

In October 2003, Harford County Public Schools received a National *Indoor Air Quality Tools for Schools* Excellence Award at the U.S. EPA's 4th Annual *Indoor Air Quality Tools for Schools* National Symposium in Washington, DC. This award signifies the school district's commitment to improving the indoor air quality in its schools and protecting the health and safety of students and staff.

For more information, contact:

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